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"No Justice, No Adaptation: The politics of climate change adaptation in Palestine"

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Abstract: This article presents an analysis of the efficiency of Climate Change adaptation planning for the climatically vulnerable sectors in the Occupied Palestinian Territory. Specifically, the article argues that Climate Change adaptation in Palestine is not merely a technical challenge; rather, it is a socio-political mission that is highly linked to region-specific social and geopolitical vulnerabilities. In this article, we argue that successful Climate Change adaptation planning in Palestine must critically address Israel's hydrological and geopolitical domination in the region. Informed by discourse and political analyses, this article argues that in regions scarred by illegal military occupations, as in Palestine, existing political and economic vulnerabilities eliminate the prospect of effective adaptation planning and implementation, and are likely to magnify the social, economic and environmental impacts of Climate Change. Challenges associated with the Israeli occupation, donor dependency, access to Climate Change adaptation funds, and internal institutional weaknesses are found to be fueled by existing political inequalities and are identified and analyzed in relation to unsuccessful Climate Change adaptation outcomes.

Keywords: Palestine, Israel, climate change, water, adaptation, vulnerability

I. Introduction

Climate Change (CC) is now recognized as a major concern that requires urgent global and local attention. While the effects of CC may have common environmental,

economic and social repercussions in several parts of the world, these implications are not homogenous or linear. The effects of CC are multi-dimensional and their intensity is more often than not dependent on various social and political determinants. Combined with geo-political and socio-economic variables, CC implications will most likely exacerbate existing social and political inequalities and vulnerabilities. The multi-dimensional implications of CC are, and will continue to be disproportionately borne by people depending on their adaptive capacities, socio-economic and geo-political positions (Sowers, Vengosh and Weinthal, 2011). Various CC vulnerability studies highlight the dire social, economic and health implications that CC might have on different communities, particularly those who are the most impoverished and whose livelihoods depend on resources that are sensitive to environmental changes (Earthwatch, 2008; Eriksen et al., 2011; Kelly and Eriksen, 2006; Mason, Zeitoun and Mimi, 2012; Sowers, Vengosh and Weinthal, 2011).

While CC implications are myriad; water shortages, declining food production, health risks and environmentally induced displacements are amongst the most distressing CC consequences for vulnerable regions and communities (Eriksen et al., 2011). The impacts of CC are not universal nor are they proportionally borne by different social groups. Socio-economic and political conditions, race, gender and geographic locations are amongst the key social determinants that are crucial to consider when assessing the intensity of climate change implications in different societies and locations. It is therefore critical that responses to CC are adapted to the particular conditions of diverse regions and communities. In their article, *Compounding Vulnerability: Impacts of Climate Change on Palestinians in Gaza and the West Bank*, Mason, Zeitoun and Mimi (2012, p.40) argue that “climate vulnerability is less about changes in physical systems than the political-economic contexts in which ‘climate risk’ is constructed and produced”. In countries where resource availability and livelihoods’ sustainability are directly linked to political and economic inequalities, climate adaptation measures should be based on climate vulnerability assessments that take these inequalities into consideration and aim to enhance adaptive capacities in relation to those vulnerabilities (Kelly and Eriksen, 2006). Recent climate simulations show that future CC implications on the Occupied Palestinian Territory (OPT) are predicted to result in significant warming, a decrease in precipitation, and increased intensity and duration of extreme weather events (Khatib, 2009; Mason, 2011; Mimi, Mason and Zeitoun, 2009; UNDP/PAPP, 2010). While these trends are expected to have dire impacts on the water sector in general, and agricultural and food production in particular (Mimi and Abu Jamous, 2010), the implications of CC on the livelihoods of Palestinians should not be addressed in isolation from the existing political and environmental impacts of the Israeli occupation.

Lack of access to water resources has been a perpetual dilemma for the Palestinian population of the West Bank and the Gaza Strip. In spite of the projected decrease in precipitation, the water crisis in the Palestine has not hitherto been a product of CC; it is rather a result of Israel’s asymmetrical control over Palestinian resources and its unremitting denial of basic rights to water for Palestinians (Messerschmid, 2012). In light of the Israeli occupation, Palestine has one of the lowest per capita water availability in the world (Mimi, Mason and Zeitoun, 2009). Compared to Israel’s per capita daily water consumption (330 liters per person per day) (UNDP/PAPP, 2010), Palestinians daily domestic water consumption (ranging between 60 to 100 liters per person) is equivalent to if not less than the minimum average required to meeting basic consumptive, sanitation and hygiene needs (Amnesty International, 2009; Mason, 2011). Currently, over 90% of surface and groundwater resources along the Jordan River are solely controlled by Israel, rendering Palestinians, whose livelihoods are highly dependent on agricultural production, in control of less than 10% of the allegedly shared resource (Zeitoun and Warner, 2006). The water sector in Palestine is characterized by Israel’s overexploitation of shared surface and groundwater resources,

which is primarily but not solely driven by the persistent expansion of illegal Israeli settlements in the West Bank (Koek, 2013; Mason, 2013). Israel's discriminatory water policies and practices have resulted in extensive violations of the right to a sufficient living standard for Palestinians, which includes the right to safe, clean and adequate water (Amnesty International, 2009).

In Palestine, technical responses to CC and discursive constructions of climate vulnerability have been predominantly donor-driven (Mason, 2011; Mimi, Mason and Zeitoun, 2009). In 2008, the UNDP Program of Assistance to the Palestinian People (UNDP/PAPP) has designed and funded a CC capacity-building program in coordination with the Palestinian Environmental Quality Authority (EQA) (UNDP/PAPP, 2010). The primary outcome of this program was the 2010 EQA and UNDP *Climate Change Adaptation Strategy and Program of Action for the Palestinian Authority*. The strategy identifies adaptation options for the OPT and recommends that in the area of CC adaptation, priority should be given to a set of proposed no-regrets and low- regrets adaptation measures (ibid).

Through exploring the underlying sources of vulnerability and bringing into context the geopolitical situation in Palestine, this article suggests that effective and equitable planning for CC adaptation is unlikely to be successful when designed in isolation from key political determinants (including socio-economic and geo-political climates) associated with existing vulnerabilities. Additionally, existing power structures and politically induced interests in Palestine can further contribute in magnifying the political challenges to developing and implementing successful adaptation measures. Using the EQA and UNDP report as an example, this article attempts to assess the effectiveness of CC adaptation planning for the OPT. In doing so, the article investigates the key challenges associated with the successful implementation of the suggested adaptation measures and practices.

II. Current Climate Conditions and CC Projections for Palestine

Ranging between extremely arid to humid within different climatic zones, the current climate of Palestine is traditionally characterized by its' wet winters and dry summers (Mimi, Mason and Zeitoun, 2009). The lack of long-term environmental data and consistent scientific observations on regional atmospheric conditions in the eastern Mediterranean pose a serious challenge for consistent CC predictions (UNDP/PAPP, 2010). Various regional CC simulations, however; have delivered consistent results projecting climatic changes over the region (Mason, Zeitoun and El Sheikh, 2011; UNDP/PAPP, 2010). In the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), projections of the 21st century for the southern and eastern Mediterranean (based on the A1B business-as-usual scenario) predict an increase in the global annual mean warming (ranging between 2.2 and 5.1° C) and a significant decrease in annual precipitation (a decrease of 10% by 2020 and 20% by 2050) accompanied with changes in rain distribution (IPCC, 2007b). Similarly, multiple studies using high-resolution climate models have delivered CC projection results consistent with the IPCC's findings; they include: the Japanese Meteorological Agency Atmosphere General Circulation Model (JMA-AGCM); the GLOWA-Jordan River Regional Climate Model (RCM); and the Sea Atmosphere Mediterranean Model (SAMM) (UNDP/PAPP, 2010). These models have been consulted by the EQA and UNDP report to deliver climate projections relevant to the OPT.

Available climate models are generally predicting a drier and hotter climate for the Palestine (Brown and Crawford, 2009; UNDP/PAPP, 2010). Projections based on the previously mentioned model simulations also suggest an increase of unpredictable extreme weather events such as heat waves, droughts, sand storms and flash floods

(Brown and Crawford, 2009; Khatib, 2009; Richard and Isaac, 2012; UNDP/PAPP, 2010). Higher temperatures will also result in an increase in the Mediterranean Sea level, which is predicted to rise up to 0.1m to 0.3m by 2050 (Brown and Crawford, 2009; UNDP/PAPP, 2010).

Consideration of future climate risks for Palestine is restricted by the large uncertainty regarding the scope of regional and local impacts (Mason, Zeitoun and Mimi, 2012). Nevertheless, and combined with existing political inequalities, there is general consensus amongst a variety of studies demonstrating that CC will pose serious adverse impacts on water resources in the OPT, which would critically influence the water supply and agricultural sector. (Brown and Crawford, 2009; Khatib, 2009; Mason, Zeitoun and Mimi, 2012). Therefore, a precautionary approach towards CC adaptation must be taken. Accordingly, and taking in consideration the stakeholder analysis in the West Bank and the Gaza Strip, the focus of the EQA and UNDP report gives priority to the water sector in terms of CC impacts and identifies agriculture as Palestine's most sensitive sector to CC implications. Consequently, the EQA and UNDP report identifies three Palestinian regions to be suffering from the highest levels of climate vulnerability within the region – Massafer Yatta region (West Bank), the easternmost areas alongside the Jordan Valley (West Bank) and the Gaza Strip (UNDP/PAPP, 2010).

In regions marred by illegal and discriminatory military occupations, as in Palestine, existing political and social vulnerabilities are likely to exacerbate the impacts of CC hazards. In the case of Palestine, the Israeli occupation has a considerable adverse impact on the capacity and ability of Palestinians to adapt to future climatic risks. For the purpose of emphasizing the complex relationship between the geopolitical reality and CC adaptation capacity in the OPT, the following section briefly introduces the political context in the region, with particular emphasis on the Palestinian-Israeli water relations.

III. The Political Context – Israel's Control over Palestinian Water Resources

Despite the projected risks on the availability of water resources demonstrated in CC predictions for the OPT and Israel, and contrary to Israel's predominant environmental discourse, water resources have not yet reached scarcity in the region (Messerschmid, 2012). The current hydrological situation in Palestine is characterized by the strikingly uneven distribution of water resources between Israelis and Palestinians. Practices undertaken by the Israeli authorities including the persistent expansions of illegal settlements and the destructions of Palestinian water pumps are examples of the hegemonic nature of Israel's control over the 'shared' resources as it continues to deny Palestinians the right to adequate water necessary for meeting basic consumptive needs (Koek, 2013).

The history of Israel's lopsided control over Palestinian water resources dates back to the end of the past century. Following the 1967 Six Day War, Israel has fortified its control over water resources through the military occupation of the Golan Heights, the Gaza Strip and the West Bank (Isaac, 2009). During the 1967 war, Israeli forces have strategically assumed control over resourceful lands, thus; securing utter dominance over the major water resources in the region (Mukhar, 2006). Israel proceeded to destroy Palestinian water pumps used by farmers to utilize water from the Jordan River and continued to enforce restrictions on Palestinians' water use by declaring lands alongside the Jordan River as designated military areas (Isaac, 2009).

Following the 1993 Oslo 'Peace' Accords, Palestinian territories were divided into three zones that would allow limited Palestinian self-governance in parts of the West Bank and the Gaza Strip. The areas divided under the Oslo 'Peace' Accords are: area A under

Palestinian control; area B under Palestinian civil rule and Israeli security control; and area C, which annexes 60% of the West Bank, under full Israeli control (Shikaki, 2002). While resolving water-related 'conflicts' was considered a 'final status' matter, the 1995 Oslo II agreement included stipulations on water and sewage, where Palestinian's water rights were explicitly acknowledged (World Bank, 2009). As an Interim Agreement, Oslo II allowed only a minor increase in the Palestinian utilization of water resources from the Eastern Aquifer. Article 40 of the agreement allocated an additional 70-80 million cubic meters (MCM) per year, an amount which eighteen years later had still not been granted to Palestinians (Attili, 2004). Article 40 further states that cooperation to develop new water sources must be ensured through the formation of the Joint Water Committee (JWC) and that exploitation of existing water sources must come to an end (Isaac, 2008).

Regardless of its name, the Oslo 'Peace' Agreement has been, for the most part, a one-sided accord that has done Palestinians more harm than good. The 'Peace' agreement has generally allowed Israel to assume more power over Palestinian water supplies, and compelled Palestinians to settle with minimal control over the purportedly shared resource. Over 180,000 Palestinians living in rural areas, some of whom are connected to the water network, remain without access to running water (Amnesty International, 2009). While many residents of certain communities obtain access to piped water once every few weeks (*ibid*), Israeli settlers who live in the West Bank in violation of international law, face no such challenge (Koek, 2013). The 450,000 Israeli settlers living in the West Bank use more water than the 2.3 million Palestinians living the West Bank. In the Gaza Strip, the southern end of the Coastal Aquifer, which is the Gaza Strip's only water resource, is in short supply to cover the needs of the population (*ibid*). Moreover, Israel continuously refuses to issue well-drilling licenses that would allow Palestinians to access their rightfully promised 70-80 MCM of water (Isaac, 2008). Consequently, many Palestinians are forced to purchase West Bank sourced water from Israel (*ibid*).

Similar to the language of 'peace' negotiations in the OPT, proposed solutions for CC adaptation are often coupled with romanticized discourses on trans-boundary water 'cooperation' (Messerschmid, 2012; UNDP/PAPP, 2010; World Bank, 2009). Cooperation, however, is not inevitably a politically neutral process, particularly in the context of the Palestinian-Israeli water relations. In the form of the JWC, trans-boundary water cooperation has proven to be linked to the remarkable exacerbation of the Palestinian water crisis. Since the establishment of the JWC in 1995, Israel has continuously used its veto power against each and every Palestinian well-drilling proposal in the major shared water resource (the Western Basin of the Mounting Aquifer), and has been granting approvals for proposals targeting small and local water networks only (Selby, 2013). Furthermore, Israel's willingness to grant licenses for the Palestinian development of the Eastern Aquifer through the JWC was proven to be conditional to the approval of the Palestinian Authority (PA) on the construction of major water supply systems from within the West Bank borders to serve Israeli settlements (Selby, 2003). Although it is beyond the scope of this article to examine the myths and multi-faceted corollaries of Israeli-Palestinian 'cooperation', it is important to note that that this type of discourse, particularly in relation to the formation of the JWC, has been deployed to institutionalize Israel's dominance over Palestinian water resources and to legitimize the uneven distribution of decision-making powers in regards to the allocation of the 'shared' resource (Messerschmid, 2012). Selby (2007, p.4) argues: "Irrespective of its name, the JWC would be a 'coordinated' rather than a 'joint' management structure... On the surface, this sounds eminently sensible and impressively cooperative. In reality, however, the JWC system merely formalized a discriminatory management regime that was, for the most part, already in existence".

Without a doubt, effective and efficient distribution and management of necessary services associated with water and sanitation in Palestine must involve region-wide infrastructure developments. Throughout more than 60 years of colonization of Palestinian lands, Israel has dominated Palestinian water resources, created major obstacles to constructing proper sanitation infrastructure, and managed to damage major groundwater resources by using the OPT as its largest and most convenient waste dumping site (Amnesty International, 2009). Certainly, the EQA and UNDP report's assessment method of stakeholder consultation, which included researchers, government officials, community-based organizations (CBOs), nongovernmental organizations (NGOs) and local communities, reflects an important governmental acknowledgement of the necessity to respond to the projected climatic impacts for Palestine (UNDP/PAPP, 2010). However, the strategy's representation of climatic risks and recommendations of CC adaptation measures in isolation from important political determinants related to water security and food sovereignty resulted in an insufficient and incomplete assessment of the prospects and challenges of equitable and effective CC adaptation planning for the region. Successful adaptation planning depends on how the actions meet the goals of adaptation, and whether they address the underlying causes of vulnerability and enhance people's resilience and ability to adapt to the identified risks (Adger, Arnell and Tompkins, 2005).

IV. Socio-Political Inequalities and Vulnerability to CC

The IPCC defines 'key vulnerability' as 'the degree to which geophysical, biological and socio-economic systems are susceptible to, and unable to cope with, adverse impacts of climate change' (IPCC, 2007a p.1). Vulnerability to CC can therefore be assessed by sensitivity, exposure (Adger et al., 2003) and the ability to cope with and adapt to environmental changes. In the context of the OPT; sensitivity to a predicted decrease in precipitation for instance, will be high within communities where politically induced water availability is already restricted. In terms of action, adaptation may take the form of a more even allocation of water resources, thus, strengthening existing systems' ability to minimize the impacts of projected climatic events.

Because the degree of vulnerability varies amongst communities and individuals, CC is likely to impact societies disproportionately. Vulnerability can also reduce resilience by compelling communities and individuals to undertake involuntary and destructive coping mechanisms. When discussed in isolation from the various socio-economic and geo-political processes that are interrelated across different scales, climate impacts say little about the environmental vulnerability of impacted communities and individuals (Mason, 2011). Addressing adaptation in mere CC terms undermines important socio-economic and geo-political factors that could largely contribute to resilience and capacity building. Vulnerability to CC is therefore identified not only in terms of direct CC impacts on natural resources, but also through the rights and entitlements of individuals and groups over these resources (Adger et al., 2003; Ayers and Huq, 2008). Vulnerability can also be understood in the context of political and institutional processes that could reinforce the inability to cope with and adapt to climatic changes (Eriksen and Lind, 2009). Conflict and socio-political inequalities can generate or exacerbate vulnerability by destroying economic, human and natural resources, thus; restricting adaptation options (ibid). The current political reality in Palestine has led to the asymmetrical allocation of political power and the inequitable distribution of land and water. When considering climate vulnerabilities in the OPT, deliberations on climate impacts must be viewed as inherently political, given that future climate risks can often be aggravated by existing political threats (Mason, Zeitoun and El Sheikh, 2011). Political ecology and environmental justice disciplines emphasize that often times, states and governments consciously allow environmental risks to exist as part of the politicized process of systematic control over land and resources. This compels

vulnerable individuals and communities to settle with very limited adaptation options (Adger et al., 2003).

In such circumstances, as evident in Palestine, a first step towards achieving successful and effective CC adaptation planning requires undertaking participatory vulnerability assessments in order to be able to identify and examine climate risks as experienced within conditions of political inequalities (Mason, Zeitoun and El Sheikh, 2011). In order for adaptation planning to be feasible and effective, suggested adaptation measures ought to identify, address and challenge the primary causes of vulnerability, where the concept of vulnerability is understood as a socially constructed phenomenon that is reproduced and reinforced by institutional and political systems. Yet, it is critical to keep in mind that the implementation of adaptation actions engages multiple actors including governments, community members, civil society organizations and international donors, and that the power of decision-making amongst these actors is neither equal nor independent as it is often entrenched within wider political systems (Adger et al., 2003). When assessing adaptation approaches, it is central to pay attention to the political interests and levels of power of those involved in undertaking adaptation activities. Even with the availability of CC adaptation funds, too often governments and institutions fail to deliver necessary adaptation measures in response to actual or predicted climatic changes (Eriksen and Lind, 2009). This is because decision-making processes are situated within wider political and institutional structures. In the OPT, water scarcity and environmental vulnerability are inherently political issues. But discourses on CC induced scarcity, combined with donors' general disinterest in funding or engaging in politicized action, have encouraged and enabled donors to dismiss or deliberately avoid addressing the underlying political aspects of resource allocation.

V. Approaches to CC Adaptation Planning for Palestine

1. Israeli discourses on CC

Prior to discussing approaches to CC adaptation for Palestine, it is important to briefly consider Israeli perceptions on CC adaptation and the shortcomings of Israel's CC discourse in relation to Palestine's adaptation options. Messerschmid (2012) suggests that the CC Israeli discourse is marked by a combination of myths, all of which are deployed to use CC as a new validation to maintain and reinforce the existing hydro-political domination in the region. The delusion of reduced water availability, Israel's determination of making 'the dessert bloom', and the unremitting denial of Palestine's water crisis (Messerschmid, 2012) typify a new paradigm of domination where CC in the region is continuously depoliticized and naturalized. In addressing the challenges associated with CC adaptation planning for Palestine, the Natural Capital Team Leader and head of the Environmental and Natural Resources Unit at the UNDP, Ms. Rima Abu Middain (2013), emphasizes how Israeli discourse on CC creates a challenging obstacle for adaptation planning in the OPT:

Israel insists that because of CC, it is unable to engage in a negotiation process with the Palestinians regarding water rights because water resources are already scarce. Israel focuses heavily on the topic of CC in order to validate their unwillingness to discuss Palestinians' water rights. This [discourse] has also created an issue for us [the UNDP] when we suggested the idea of CC adaptation strategizing... we do not have a water availability problem, the problem is purely political... we faced a major challenge trying to convince the competent authorities that Palestine is one of the most important regions for CC adaptation strategizing, particularly in areas inhabited by the most vulnerable (Abu Middain, 2013).

During the past few years, Israeli water officials have been consistently referring to Israel's 'water scarcity' crisis. In Israel's second National Communication on Climate Change submitted under the United Nations Framework Convention on Climate Change (UNFCCC), discussions around climate vulnerability due to the 'country's scarcity of natural resources, especially energy, land and water' (Axelrod and Gabba, 2010: 3) is a recurring theme emphasized throughout the document (Axelrod and Gabba, 2010). In an attempt to avoid the discussion around Israel's own failure in water management, leading Israeli authorities continue to adopt the concept of 'reduced availability' of water resources due to CC as a new rationale: 'In recent years... the situation has developed into a crisis so severe that it is feared that by the next summer it may be difficult to adequately supply municipal and household water requirements' (Jewish Virtual Library, 2013: 1). It is no surprise that Israel's water scarcity discourse is constantly accompanied with a defensive rejection of the Palestinian water crisis (Messerschmid, 2012). The discourse of 'making the desert bloom' portrays Israel as a geographically small, yet, advanced country with a dazzling agricultural history that offers an excellent case study for dry-land nations seeking a sustainable and efficient approaches for their agricultural sector (Tal, 2007). This discourse remains an essential tool that depoliticizes and a-historicizes decades of Israeli control and annexation of Palestinian lands and resources: 'Israeli agriculture's association with moral, ideological and social ideas obstructs meaningful reduction in the allocation of water to agriculture. The Zionist movement has always seen transforming land into a means of production as the index of its success' (Kartin, 2001, p.273). Indeed, when exploiting vast amounts of fresh water, as apparent by Israeli settlements' lush gardens, exhaustive irrigation farms and luxurious swimming pools (Amnesty International, 2009), and by overusing someone else's water while denying them their rightfully owned share of the resource, Israel's proposed oasisification of the desert no longer seems to be a tremendously challenging mission.

Israel's public discourse on CC induced water scarcity has been and continues to be deployed as a tool that naturalizes water crises in the region, which in reality, are highly politicized hydrological concerns. As long as Israel's CC discourse reduces water scarcity into a merely technical challenge, and as long as CC adaptation approaches are stripped away from the hydro-political implications in the region, any assessment of CC implications and adaptation will remain insufficient.

2. Donor-influenced Palestinian discourses on CC

While the Palestinian discourse on CC adaptation is less advanced than the Israeli one, it remains more politicized than Israel's predominant technical discussion on CC (Brown and Crawford, 2009; Khatib, 2009; Mason, Zeitoun and Mimi, 2012; Richard and Isaac, 2012; UNDP/PAPP, 2010). The EQA and UNDP CC adaptation strategy adopts the broad concept of climate vulnerability, defined as 'the propensity of people or systems to be harmed by the climate hazards in the context of other domains of vulnerability, as well as in relation to response capabilities in both short term coping and long term adaptation' (UNDP/PAPP, 2010 p.17). As concluded in the stakeholder consultation process (UNDP/PAPP, 2010), and the climate vulnerability assessment (Mimi, Mason and Zeitoun, 2009), the language presented in the EQA and UNDP report acknowledges the non-environmental sources of vulnerability in relation to Palestinians' coping mechanisms and adaptive capacities. The authors of the EQA and UNDP report refer back to the outcomes of the consultation meetings undertaken by the strategy's Project Team and identify the Israeli occupation as the 'chief non-environmental source of vulnerability throughout the OPT... at both the national and community level' (UNDP/PAPP, 2010: 18). The strategy further takes into account the vulnerability pathways in the West Bank and the Gaza Strip mapped out by stakeholders (see figures 1 and 2). The vulnerability pathways demonstrate climate vulnerabilities that arise from, or are compounded by Israeli sanctions, blockades and

practices and demonstrate ways through which ‘political and physical aspects of climate vulnerability are intermixed’ (UNDP/PAPP, 2010: 34). For instance, figure 1 demonstrates how vulnerability that is fueled by the Israeli occupation (i.e. movement and well-drilling restrictions) has direct impacts on people’s livelihoods, and thus, an impact on their adaptive capacity (i.e. preventing farmers from accessing their lands has an ultimate impact on their seasonal yield production). Similarly, figure 2 demonstrates the relationship between reduced wastewater treatment due to the Israeli closure of the Gaza Strip and the poor quality of groundwater, which has significant health impacts and thus, an impact on livelihoods sustainability and adaptive capacity. Derived from the stakeholder consultation process, the EQA and UNDP report identifies the lack of control over land, borders and water resources as the primary obstacle to CC adaptation in the OPT.

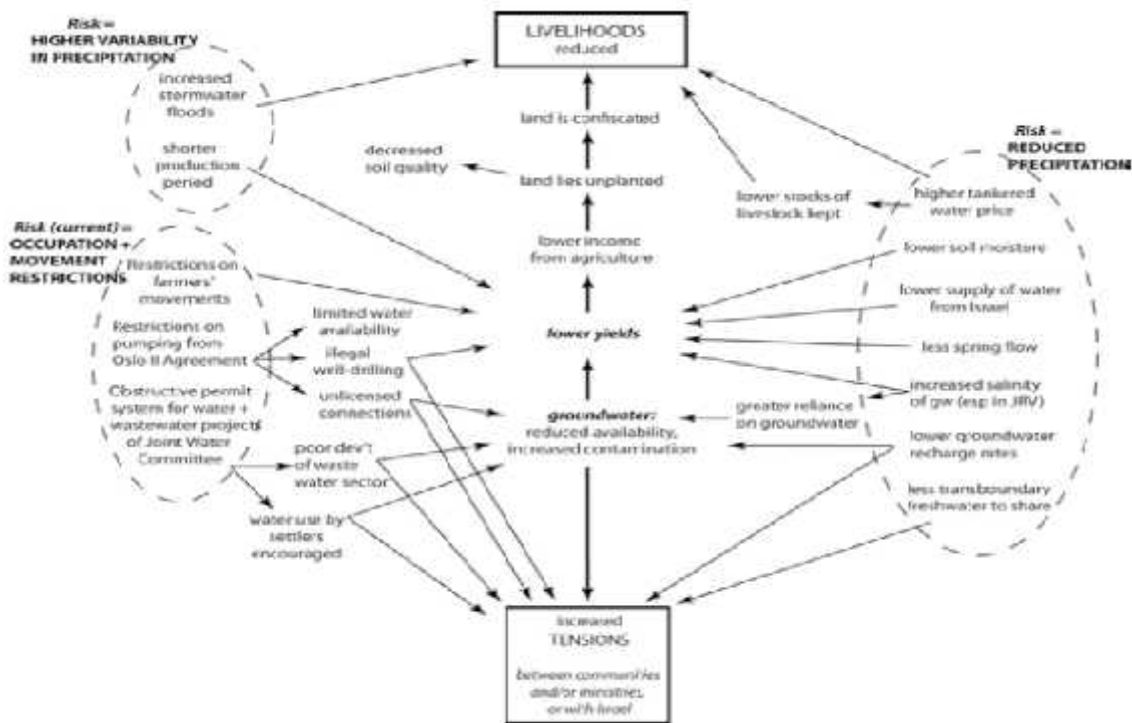


Figure 1: Climate vulnerability pathways in the West Bank. Source: (UNDP/PAPP, 2010 p.34, figure 3.2).

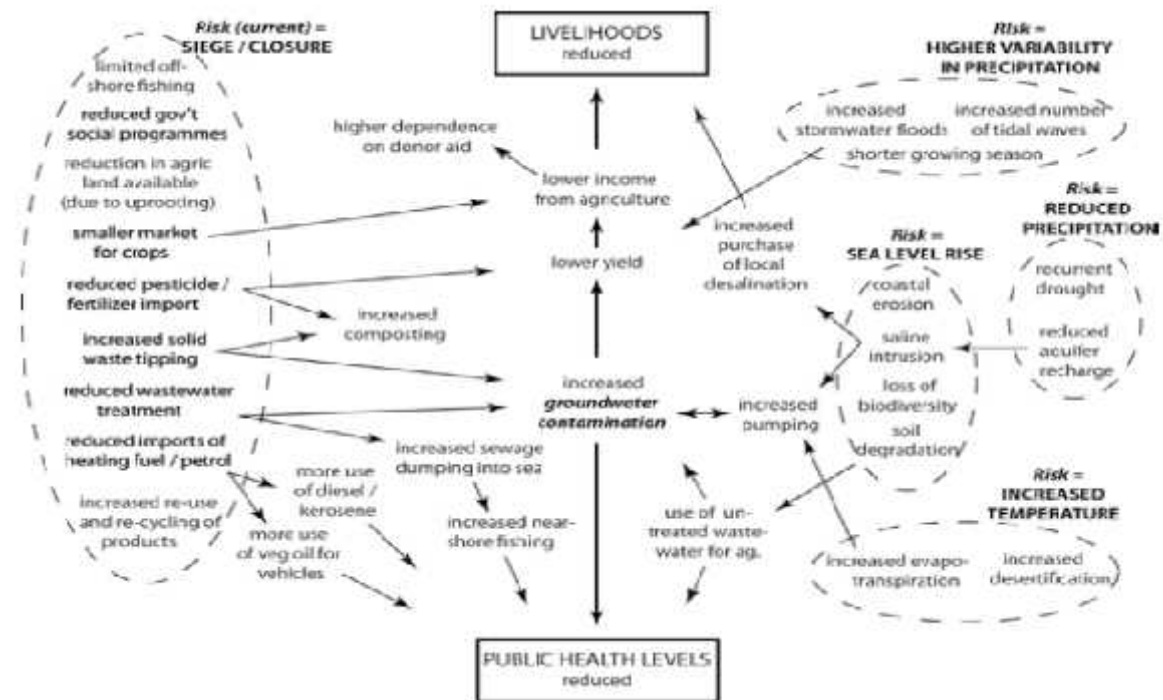


Figure 2: Climate vulnerability pathways in the Gaza Strip. Source: (UNDP/PAPP, 2010: 36, figure 3.3).

Nevertheless, Palestinians rely heavily on externally funded adaptation projects, which are often restricted to technical implementations rather than political interventions that challenge the existing asymmetrical distribution of power (Selby, 2013). Although donor-driven assistance in Palestine is largely affected by political constraints, most CC adaptation donors appear reluctant to fund projects that challenge existing power relations (Zeitoun and Warner, 2006). Through understating the extent of Israel's asymmetrical control and while praising the potential of the Palestinian-Israeli 'peace process', development and environmental international donors have utterly accepted and at times, reinforced existing political and socio-economic structures in Palestine. Messerschmid (2012: 27) argues that 'in the absence of material change, new security thinking can come to serve primarily as a rhetorical cover for enduring inequities and interests... the real challenge is not to re-imagine security, but to support and hopefully embolden actual transformation'. Similarly, it is apparent that within donor-led CC adaptation planning for the OPT, there is a propensity to plan adaptation measures under the supposition of a continuing political status-quo and power structure. The predominant a-political approach to CC adaptation in relation to Palestine can be demonstrated in the examples provided below.

While considered a 'key' CC research document for the OPT (Mimi, Mason and Zeitoun, 2009), the Sweden/Switzerland funded report titled, *Blue Peace: Rethinking Middle East Water*, addresses solutions for proposed adaptation options for Palestine in either technical terms, or with particular reference to trans-boundary water 'cooperation' (Waslekar, 2011). The document refers to the water-induced political tension in the region as a 'blame game' between Israelis and Palestinians, where both parties are equally at fault and retain the same degree of power to resolve the crisis: 'The Palestinian and Israeli experts accuse the other side of excessive pumping from the Mountain Aquifer. The Karstic nature of the Mountain Aquifer combined with over-pumping will increase its susceptibility to pollutants in the future' (Waslekar, 2011: 6). The Blue Peace report (2011) consequently suggests that 'cooperation in the sharing of

technology, expertise and information, as well as joint funding and easing of certain import restrictions will aid in optimizing marginal water production' (Waslekar, 2011: 10). The 'cooperative' technical solutions suggested under the Blue Peace report do not entail an equal distribution of shared water resources; rather, they seem to adopt Israel's reasoning for denying Palestinians their water rights by echoing Israel's mythical allegations on reduced water availability: 'If Israel receives adequate rain... it will not face a deficit in 2020... If however, Israel suffers another severe drought period or cedes freshwater resources to an independent Palestinian state, it may face a marginal or severe deficit' (Waslekar, 2011 p.XIX). Donors' discourses on CC adaptation in Palestine and Israel frequently bolster Israel's falsely assertion on water scarcity in the region. The position demonstrated in the Blue Peace report is one example of the way Israel's CC and water control agenda ends up being pushed through by donor-driven projects. By dismissing the political inequities that augment Palestinians' increased sensitivity to CC, such proposals insist that approaches to CC adaptation are reduced to their technical and economic feasibilities.

Similarly, the *Rising Temperatures, Rising Tensions* document (Brown and Crawford, 2009) prepared by the International Institute for Sustainable Development (IISD) characterizes the current political reality Palestine not in terms of the uneven distribution of power and resources, but rather by the 'distrust, hostility and a lack of cooperation' (Brown and Crawford, 2009 p.3), which will lead to an exacerbation of CC impacts (ibid). The IISD report stresses that building adaptive capacity to CC is directly linked the wider peace building process. Conversely, achieving hydro-peace is discussed in relation to the role of international donors in supporting technical adaptation measures (i.e. water conservation and wastewater treatment), but with no reference to the possibility of challenging the current political supremacy and hydro hegemony in the region (Brown and Crawford, 2009).

Adaptation actions are not independent; they are tied to a set of decisions and actions that are influenced by institutional processes and political norms. In pursuance of adopting an effective adaptation approach, it is critical that adaptation measures involve building adaptive capacities in relation to existing inequalities thereby strengthening vulnerable communities, as well as implementing adaptation measures. Assessments based on these two factors often reveal how many adaptation activities aggravate existing inequalities and fail to alleviate the fundamental causes of vulnerability (Adger, Arnell and Tompkins, 2005).

3. The EQA and UNDP's Climate Change Adaptation Strategy and Program of Action for the Palestinian Authority

The influence of the donor agenda, which typifies the risk of de-politicization and operates under the assumption of a continuing political status quo, is considerably apparent in the Palestinian discourse on CC adaptation. As mentioned earlier in this article, the emerging Palestinian discourse on CC is a fairly politicized one; yet, in relation to practical proposed adaptation measures, CC adaptation is considered in mere technical rather than socio-political and economic terms.

The EQA and UNDP strategy identifies the major climate-induced risks to water and food security in Palestine in relation to the vulnerability pathways demonstrated earlier (UNDP/PAPP, 2010). The climate-induced risks identified by the authors include (1) crop area changes, (2) poor crop and livestock production, (3) increased irrigation necessities, (4) reduced public health due to water contamination, and the risk of increased (5) floods, (6) droughts and water scarcity (ibid). Accordingly, the report provides a list of prioritized 'no-regrets' and 'low-regrets' adaptation options for the OPT (see figures 3 and 4), where 'no regrets options are those that are justified under the current climate conditions and are further justified when probable climate change

is considered' (UNDP/PAPP, 2010: 45), and 'low regrets options are those that require limited additional outlays to address the effects of climate change' (UNDP/PAPP, 2010: 45).

Adaptation measure	Adaptive capacity	Technical feasibility
1. Development of flood contingency plans	High	High
2. Local increases in rainfall interception	High	High
3. Establishment of clear water use priorities	High	High
4. Introduction of more efficient irrigation	High	High
5. Review of drinking water quality management system to incorporate climate risks	High	High
6. Increased (sustainable) use of freshwater	High	High
7. Increased use of brackish water and treated wastewater	High	High
8. Equitable and reasonable allocation of transboundary water resources between Israel and the Palestinians	High	High (but politically challenging)
9. Awareness-raising on water conservation	Medium	High
10. Change in cropping and livestock patterns for productivity gains	Medium	Medium

Figure 3: No-regrets adaptation options (no order of priority). Source: (UNDP/PAPP, 2010 p.46, table 4.2).

Adaptation measure	Adaptive capacity	Technical feasibility
1. Increased irrigation for highest value crops	High	High
2. Increased scale of water harvesting	High	High
3. Protection of coastal sand dunes	High	High
4. Rural livelihood diversification	High	Medium
5. Adaptive land use planning	High	Medium
6. Precision agriculture: improved soil and crop management	High	Medium
7. Alteration of crop and ruminant selections for more tolerance to heat and drought	High	Medium
8. Prohibition of use of untreated wastewater in agriculture	Medium	High
9. Strengthened capacity of agricultural extension services	Medium	Medium
11. Enhanced floodplain management	Medium	Medium
12. Reduction of grazing pressure on rangelands	Medium	Medium

Figure 4: Low-regrets adaptation options (no order of priority). Source: (UNDP/PAPP, 2010 p.47, table 4.3).

Dr. Mark Zeitoun, co-author of the EQA and UNDP report, describes the entire process through which the strategy was primed as 'faulty' (Zeitoun, 2013). Dr. Zeitoun indicates that the stakeholder consultation process reflected the views of those who 'spoke most loudly and eloquently'; i.e. the international donor community. The participatory process, he explains, did not reflect the voices and needs of the most vulnerable communities, but instead, demonstrated a donor-driven process that is 'heavily tied to the Israeli agenda':

The main reason we looked at CC in the first place was because the UNDP was pushing it... The whole process was faulty; there weren't any farmers from the most vulnerable communities, but mostly development workers in Ramallah [West Bank], who are not the most vulnerable people... There is a lot to be

criticized about the report... It was a severely weak document that sat on the shelf (Zeitoun, 2013).

Representatives from the Palestine Hydrology Group (PHG) participated in the West Bank stakeholder consultation meetings, which aimed to combine the viewpoints of Palestinian governmental and non-governmental stakeholders in regards to the UNDP/PAPP CC initiative (UNDP/PAPP, 2010). In describing the stakeholder consultation process, Dr. Abdel Rahman Tamimi, the director general of the PHG stated:

I consider it to be an elitist process... Important public participation was missing... those who should be part of the process, like farmers and those impacted by the uneven distribution of natural resources were not adequately represented. That was the major gap in the consultation process (Tamimi, 2013).

It is plausible for participatory CC adaptation strategizing to include a consultancy process that gathers representative from donor and recipient countries. Nonetheless, this does not inevitably imply that the power and ability to affect change is equal amongst those groups and it certainly does not indicate that their voices would essentially translate into decision-making powers or be reflected in the end product of those strategies (Tan, 2008). As noted earlier, stakeholder consultations in the West Bank and the Gaza Strip identified the Israeli occupation and ongoing military practices the key obstacles to reaching water and food security (UNDP/PAPP, 2010). Yet, as shown in figure 3, the presented adaptation options are limited to changes in agricultural methods, wastewater reuse, and water-use planning and efficiency. Similar to Israeli CC adaptation approaches (Haim, Shechter and Berliner, 2008; Lautze et al., 2005), the adaptation option that calls for 'increased use of freshwater' (UNDP/PAPP, 2010: 46) suggests that supplementary freshwater ought to come from desalination of the Mediterranean Sea's water. Although discussed in terms similar to donors' discourse on cooperation, the only adaptation option that counteracts the predominant Israeli discourse on CC is the 'equitable and reasonable allocation of trans-boundary water resources between Israel and Palestine' (UNDP/PAPP, 2010: 46). In all remaining adaptation options, the discourse is vastly depoliticized. The EQA and UNDP report therefore indicates that the hope for a fair and increased water access for Palestinians is almost entirely dismissed as an adaptation option.

In light of the pressing developmental, humanitarian and environmental needs in the West Bank and the Gaza Strip, the UNDP CC adaptation efforts in the OPT reflect the "agency's perspective on 'human security', defined as the liberation of human beings from those intense, extensive, pro-longed, and comprehensive threats to which their lives and freedoms are vulnerable" (Mason, Zeitoun and El Sheikh, 2011: 287). In theory, addressing climate vulnerability in the context of human security resembles an opportunity where climate vulnerability is effectively linked to complex non-climatic risks that impact people's adaptive capacities, freedoms and livelihoods. In reality however; particularly in relation to donor-driven CC adaptation planning for the OPT (UNDP/PAPP, 2010), there is an implied supposition that successful CC adaptation can be achieved in a linear order given accurate CC projections, adequate financing, and sufficient awareness by citizens and governments (Eriksen and Lind, 2009). In conflict-affected areas, like in Palestine, addressing climatic hazards in merely technical terms can shift policy attention, as seen in the EQA and UNDP report, away from the core non-climatic sources of vulnerability. In regions with limited access to funds, complex internal and foreign politics, and no access or control over land and resources, like in Palestine, the suggested adaptation measures labeled with 'high technical feasibility' (UNDP/PAPP, 2010: 46) are in fact extremely impractical.

Although envisioned as ‘practically feasible for implementation within the next three years’ (UNDP/PAPP, 2010: 46), it is not surprising that for multiple distinct, yet related reasons, which are addressed later in this article, none of the no-regrets and low-regrets adaptation measures proposed by the EQA and UNDP report have yet been implemented or are likely to be implemented in the near future (Abu Thaher, 2013; Katbeh, 2013; Tamimi, 2013; Zeitoun, 2013). An effective approach to building communities’ adaptive capacities requires vision and actions that move beyond the measurable and identifiable impacts of CC. An effective approach requires actions that target broader political and social determinants that significantly contribute to the aggravation or reduction of CC vulnerability (Ayers and Huq, 2008). In planning for CC adaptation in regions like Palestine, geopolitical realities that can have major impacts on people’s adaptive capacities must be acknowledged and the non-climatic aspects of vulnerability must be critically challenged. Communities in the West Bank and the Gaza Strip continue to face climatic hazards with very limited institutional protection. The following section highlights the main reasons behind the failure to implement the ‘no regrets’ and ‘low regrets’ adaptation measures recommended by the EQA and UNDP report.

VI. Failing to Implement CC Adaptation Measures

1. The Israeli Occupation

The challenge to equitable and effective adaptation planning due to restrictions linked to the Israeli occupation is a recurring theme in the EQA and UNDP report. During the consultation process with West Bank stakeholders, representatives from the Ministry of Agriculture state:

It is necessary to characterize correctly climate change and drought... There are different types of drought – meteorological, agricultural, hydrological and socio-economic. The Palestinians are suffering from a ‘political drought’ – our water resource management is distorted by the Israeli occupation (UNDP/PAPP, 2010: 23).

Stakeholders from the West Bank and the Gaza Strip have constantly stressed the infeasibility of CC adaptation policies and strategies that are designed under the presumption of a continuing political status quo, assuming that ‘existing planning frameworks are useful’ (UNDP/PAPP, 2010: 23). Stakeholders further suggest that the prioritized adaptation measures must effectively challenge the Israeli control over Palestinian water resources. The PHG representatives particularly argue: ‘If there is no Palestinian control over resources, the adaptation strategy or program will not succeed’ (UNDP/PAPP, 2010: 24). When assessing the proposed adaptation measures related to the equitable allocation of water resources, increased irrigation and increased harvesting of freshwater (UNDP/PAPP, 2010), Israel’s military orders and control over land and water resources remain as primary obstacles facing a successful and equitable implementation for the proposed measures. Dr. Zeitoun (2013) suggests that ‘ending the occupation’ and having an independent Palestinian state are the primary necessary steps towards planning and implementing equitable and feasible CC adaptation actions: ‘everything else pales in comparison to that [and] even the best of plans get distorted by the occupation’ (Zeitoun, 2013).

Over the course of the Israeli occupation of the OPT, the Israeli Occupation Forces (IOF) issued a series of military orders that aim at restricting Palestinians’ access to water resources (Amnesty International, 2009). Prior to 1967, West Bank cities and villages depended on the local supply of water from wells and shallow springs (Selby, 2003). In 1967 Israel announced Military Proclamation No. 2, which pronounces all

water resources in the OPT as state-owned property (Koek, 2013). Later that year, Military Order 158, which remains in force today, specified that Palestinians are prohibited from undertaking new water installations without first acquiring official authorization from the Israeli army (Amnesty International, 2009). Order 158 further stipulates that any water system or resource constructed without the Israeli army's permission would be subject to immediate confiscation (ibid). In 1982, the West Bank's water infrastructure, which was already managed and administered under by the Israeli authorities, was transferred to the Israeli national water company, Mekorot (Koek, 2013). Mekorot manages over 42 wells in the Jordan Valley area (West Bank), from which the supply is almost entirely monopolized by Israeli settlements, while the amount sold to the Palestinian water utilities is determined by the Israeli authorities (Amnesty International, 2009).

Today, Israel grasps complete control over the Mountain Aquifer as well as the remaining supposedly shared water resources. Through military orders, Israel prevents Palestinians from drilling wells without official authorization, which are often not tremendously difficult to obtain (B'Tselem, 2008). Moreover, confiscations are not restricted to unlicensed well drillings; in 2007, residents of the Wadi Foqin (located in area C, West Bank), received a land confiscation order that entailed the destruction of one licensed water well, 6 water springs, and 13 rainwater systems (Isaac, 2007). The military order also included the uprooting of olive, vine and almond trees in various parts of the village (ibid). As Israel continues to prohibit any water transfer from the West Bank's Mountain Aquifer to the Gaza Strip, the annual harvest of the Coastal Aquifer remains far less than the amount needed to cover the population's basic needs (Koek, 2013). The destruction of water infrastructure in the Gaza Strip is also inevitable during Israeli military operations such as air strikes and ground invasions (Amnesty International, 2009). Following the 2008/2009 war on the Gaza Strip, reports on damaged water-resource infrastructure indicated the destruction or partial damage of more than 16 municipal wells and water reservoirs, which rendered about 50000 Palestinians deprived from their regular access to water (Nembrini, 2010). Furthermore, over 90% of urgent water and land-related adaptation projects in the West Bank need to be implemented in Israeli-controlled C areas, where the largest fraction of the most vulnerable Palestinian communities resides. Yet, implementing all sorts of projects (infrastructure, environmental and developmental) in C areas requires official authorization by Israeli authorities (Abu Middain, 2013; Katbeh, 2013; Tamimi, 2013). Mr. Nedal Katbeh, the Minister's Adviser for Climate Change at the EQA clarifies:

One of the main obstacles to implementation is Israel's control over Palestinian resources, including land and water. [As we plan], we often assume there are no obstacles. But we are aware that the occupation is in control of everything... We know that Israel has control over most resources and uses 82-89% of all water resources... Even if we intended to construct water wells, Israel is entirely in control... Even if we refuse to submit to the political division of Palestinian lands... we still need to work in area C (Katbeh, 2013).

In relation the adaptation measures associated with wastewater treatment such as 'the prohibition of use of untreated wastewater in agriculture' (UNDP/PAPP, 2010: 47), the Israeli occupation also remains one of the major determinants hindering the implementation of wastewater related projects (Isaac, 2007). In the West Bank, the lack of Palestinian control over land and infrastructure due to Israel's segregation system has obstructed the implementation of multiple wastewater related projects (ibid). Acquiring Israeli authorization for building wastewater treatment facilities in the West Bank involves a prolonged and convoluted process that requires the approval of the JWC (Hareuveni, 2009). In addition to the JWC's permission, the construction of

wastewater treatment facilities in area C requires the approval of the Israeli Civil Administration. The rejection of a proposed site or facility by the Civil Administration can cause years of extensive delays. According to the PA, Israeli authorities have deferred the construction of over 140 water and wastewater infrastructure projects over the course of a few months in 2009 (ibid). In the Gaza Strip, multiple donor-led wastewater treatment projects have been repeatedly hindered due to Israeli constraints on the import of construction materials (Mason, Zeitoun and El Sheikh, 2011).

Israeli policies and practices in the OPT, notably the asymmetrical domination of land and water resources and the destruction and prevention of water-related infrastructure and projects, hinder the possibility of a successful implementation of most adaptation measures proposed in the EQA and UNDP report. Under the current socio-economic and political circumstances in Palestine, it is incongruous to identify practices such as 'increased and more efficient irrigation' and sustainable use of freshwater as 'highly feasible' adaptation measures. The proposal of such 'alternatives' in a region where communities are obligated to carry out involuntary adaptation methods such as reduced irrigation and the usage of contaminated water (Mason, Zeitoun and El Sheikh, 2011) resembles recommendations for adaptation not to CC, but to a continuing political disparity of hydro-hegemony.

2. The political agenda of donor-projects

Several challenges arise as a result of Palestine's large dependency on external funding and donor support for most developmental and environmental projects (Abu Middain, 2013; Katbeh, 2013; Tamimi, 2013; Zeitoun, 2013). Most notably, these challenges are highly linked to the depoliticized approaches adopted by international donors as well as the reluctance of the international community to acknowledge CC adaptation in the OPT as a humanitarian mission. Given donors' preoccupation with technical and a-political missions, it becomes very challenging to plan for and implement desired and needed CC adaptation projects in Palestine, where the underlying determinants of climate vulnerability are effectively challenged. In order to fulfill their obligations, donors often wind up financing projects that are either inefficient or that carry with them adverse impacts on targeted communities. Dr. Tamimi presents an example of a project funded by the United States Agency for International Development (USAID), where instead of financing one of the many needed water-related projects, the USAID insisted on constructing inefficient water wells in the southern region of the West Bank. Dr. Tamimi (2013) explains:

We [the PHG] advised the USAID that there was no need to drill wells in certain areas of Hebron and Bethlehem because the Aquifer had been destroyed during the Israeli invasion... but they [USAID] continued with the construction because working in that region was tied to their political mission in the area. Donors have their own agenda and some of them are not concerned with the effectiveness of their projects after they are implemented. Donors work in accordance with their priorities, which sometimes run counter to the PA's priorities... donors also claim that they attempt to build Palestinian capacities, where in reality they bring their institutions for implementations that are unrelated to capacity building (Tamimi, 2013).

While funding was available for the preparation of the EQA and UNDP report, funds have not yet been allocated for the implementation of any of the suggested adaptation measures, and no evaluation or monitoring procedure has taken place ever since (Abu Middain, 2013; Abu Thaher, 2013; Katbeh, 2013; Tamimi, 2013; Zeitoun, 2013). The large gap between what has been written in the report and the reality on the ground indicates donors' preoccupation with theoretical CC adaptation projects that meet their

obligations, and the absence of a result-oriented approach where implementation is effective and most importantly, plausible.

Although Israeli restrictions and delays in issuing permits create major obstacles for donors in implementing their adaptation-related projects in the OPT, they remain unwilling to publically challenge or criticize the barriers they face in implementation processes due to Israel's military policies and practices (Amnesty International, 2009; Messerschmid, 2012). In the stakeholder-scoping meeting conducted by the EQA and UNDP Project Team, the donor focus group emphasized that 'donors are reluctant to challenge Israel over the occupation even though the occupation reduces the effectiveness of their programs' (UNDP/PAPP, 2010 p.30). One reason behind donors' reluctance to publically challenging Israeli policies that limit their ability to implement many of their projects appears to be fear over the continuity and sustainability of the financed projects. While acknowledging the Israeli army's hindrance of a water-related project in the OPT, an international water expert stated to Amnesty International (2009 p.73): 'it would not be helpful to raise this issue publicly. We already face so many difficulties to get permits and access for our projects, and this could create tensions with the Israeli authorities and make our life even more difficult'.

In reference to the obstacles facing the effective implementation of adaptation measures recommended by the EQA and UNDP report, Dr. Tamimi (2013) criticizes the process through which infeasible adaptation measures are determined. He notes that there is high rivalry between international donors themselves, where each donor competes to impose their own agendas and priorities in order to fulfill their obligations. Dr. Tamimi further explains: '... comprehensive [adaptation] planning is absent... there must be an inclusive planning process where all donor plans are complied, and those that do not meet our needs are dismissed' (Tamimi, 2013). In the stakeholder consultation meeting for the EQA and UNDP strategy, representatives from the Ministry of Planning note that 'the impact on the ground of the proposed project is essential. Too often in Palestine, the PA has implemented programs that reflect donor priorities and that haven't addressed wider issues or delivered necessary outcomes' (UNDP/PAPP, 2010: 23). In many donor-driven environmental projects, particularly in 'developing' countries, consultation processes are often limited to nominal practices such as focus groups and scoping meetings, however; the voices of civil societies and vulnerable groups are largely marginalized as their contribution merely becomes an added formality to a predetermined and fixed plan (Tan, 2008). For instance, in explaining the design stage of some Climate Investment Funds (CIF) projects, Tan (2008) notes that discussions were conducted through confidential meetings with strategically selected participants and a short timeframe for completion (Tan, 2008). Similarly, the lack of transparency and the a-political approach taken in the design process of adaptation projects for Palestine is demonstrated through the way adaptation related projects are funded, planned and occasionally implemented. In explaining the preparation stage for the EQA and UNDP report, Dr. Zeitoun clarifies:

There was a global UNDP fund and workers in PAPP were quick to pick up on it... One bureaucrat saw an opportunity for funding and took it. It was not the vulnerable communities who did it... any more political project would have been resisted.... The very reason for the a-political process is because Palestinians do not have enough funds. The leadership would have their own ideas and they are compromised by funds. When you go to the donors, they drive a-political processes, especially with environmental issues... (Zeitoun, 2013).

The impact of the donor-driven approach described above is not only restricted to the outcomes of the UNDP and EQA report, it is rather a prevalent phenomenon that characterizes the donor-recipient relationship in Palestine. For example, farmers in C areas have become regular participants in donor-led agricultural and water related

projects, where many of them have become accustomed to the bureaucracy of the planning process (Abu Middain, 2013), and aware of the limited end results of such consultations. As a result, farmers who partake in participatory consultation processes related to adaptation programs no longer refer to what their actual needs are; instead, they are now more likely to express their needs according to what they have been taught to expect from donor-driven projects (Tamimi, 2013). Dr. Tamimi (2013) describes this type of donor influence on Palestinian farmers as a deliberate ‘mentality-reshaping’ process, where farmers and community members are taught to ask for what they expect rather than what they rightfully deserve, such as adequate access to water resources and waste treatment facilities. When all local stakeholders, including bureaucrats, officials and community members become an integrated part of the predominant donor agenda, it becomes even more challenging to plan for effective adaptation.

It is important to note that Palestine’s reliance on international aid is highly linked to the restrictions on the Palestinian economy imposed by the Israeli occupation. Since the beginning of the second Palestinian uprising in 2000, the Palestinian economy has declined rapidly with rising poverty rates and increased dependence on external aid (Batniji et al., 2009). Dr. Jad Isaac, the director general of The Applied Research Institute – Jerusalem (ARIJ) refers to one of ARIJ’s ongoing studies on the economic impacts of the Israeli occupation on the OPT:

If the Israeli occupation were to end its restrictions on the Palestinians, we [Palestinians] would acquire a few billion dollars and would no longer rely on external funding [...] if Israelis were to pay the price for the Palestinian water and building material that they forcibly take, this would get us an additional billion dollars, which is double the amount we get from US donors (Isaac, 2013).

In 2006, the poverty rate in the OPT was close to 19% in the West Bank and 52% in the Gaza Strip (Batniji et al., 2009). In reaction to Hamas securing a majority in the Palestinian legislative elections in 2006, Israel, the United States, the European Union and several other donor states imposed a form of collective economic punishment on Palestinians by suspending major forms of aid and remittances. Consequently, the poverty rates increased to reach 45% in the West Bank and 80% in the Gaza Strip (ibid). Following the division of the PA into two ruling polities – Fatah under the Palestinian National Authority in the West Bank, and a Hamas-led government in the Gaza Strip – international donors, including those concerned with CC adaptation, continued to support the PA in the West Bank while refusing to engage with Hamas’s ruling government in the Gaza Strip (Mason, 2013). In addition to the Israeli blockade on the Gaza Strip, international economic sanctions have made the situation in the Gaza Strip particularly more acute. In reference to the implementation obstacles that arise from the high dependence on donor funding, Ms. Abu Middain (2013) notes:

One of the negative impacts resulting from our dependence on donors is the fact that our work is often restricted within the West Bank... donors refuse to work with Hamas and as a result we end up working in one part of the country and neglecting the other... we try to resolve this issue as much as we can, but in reality there is nothing we can do but stay tied to external funding.

When approaches to CC adaptation are divorced from the wider political context, water scarcity and agricultural disruptions in the OPT are no longer considered politically induced dilemmas, but appear as a purely technical challenge. As the donors seem reluctant to address the fundamental sources of climate vulnerability, which reduce the efficiency of their own projects, they restrict themselves to ‘neutral’ and often theoretical solutions. At the point where adaptation activities seem to run counter to Israel’s agenda (i.e. working on adaptation projects in areas under Hamas’s

authority), donors refuse to engage. CC financing characterized by such a donor-recipient relationship implies that the strategic priorities of funding are conditional. As demonstrated in the examples provided earlier, including the EQA and UNDP strategy, donors' priorities are not dedicated to implementing effective or feasible adaptation results; their priorities are rather concerned with conducting adaptation projects that, as long as they fulfill the required obligations, are compatible with the Israeli occupation.

3. Financing CC adaptation

Despite the increasing interest demonstrated by international donors in financing CC adaptation programs in Palestine, the inability to access CC adaptation funds available under the UNFCCC is an additional obstacle to implementing adaptation measures (Abu Middain, 2013; Abu Thaher, 2013; Katbeh, 2013; Tamimi, 2013). Due to the previously addressed concerns related to Palestine's heavy reliance on international funding, it is imperative that Palestine is able to access climate adaptation financing as a form of compensation for those who are particularly vulnerable, and that is additional to existing development aid, as recognized by the UNFCCC's principle of 'additionality' (UNDP/PAPP, 2010). While it is beyond the scope of this article to examine criticisms around the concept of additionality, it is relevant to note a key observation by Adger, Arnell and Tompkins (2005), which suggests that the principle of adaptation obligations being additional to development commitments could prevent the allocation of existing funds towards development activities that target vulnerability reduction and climate resilience. Nonetheless, and due to the political challenges associated with Palestine's reliance on small grants and other bilaterally funded projects (UNDP/PAPP, 2010), it is reasonable for Palestine to be seeking funds that are available within an international environmental framework. As mentioned previously, there is a general concern regarding the transparency of the planning and implementation processes of CC adaptation projects that take place outside the UNFCCC framework (Tan, 2008). While funds available under the UNFCCC are not free of valid criticisms (Adger et al., 2003; Ayers and Huq, 2008), Palestinians find it essential that Palestine has access to effective and sustainable financing under an international framework that is guided by multilaterally recognized principles (Abu Middain, 2013; Abu Thaher, 2013; Isaac, 2013; Katbeh, 2013).

Palestine's UNFCCC membership is essential for two reasons; firstly, it is an important political message to have Palestine be recognized, as part of an international organization... Secondly, we have a CC dilemma, and we have strategies and plans that we want to implement, but we are completely outside the fund-flow equation... Palestine was never a contributor to CC; yet, we are and will continue to be tremendously impacted by it.... Many UNFCCC member countries are eligible for CC financing not in the form of aid, but as a commitment.... If Palestine were a formal member of the UNFCCC it would be easier to have an implementable adaptation strategy that could translate into an actual program of action.... adaptation planning has to be realistic... we have a vision and we are able to design adaptation strategies... but effective planning should include an evaluation of gaps and capacities. We do not have that and it is mainly because we are not part of the UNFCCC (Katbeh, 2013).

Following its participation in the 18th session of the Conference of the Parties (COP 18) in Doha, Palestine became an 'observer state' but not yet a signatory member of the UNFCCC (Katbeh, 2013). In rejection of Palestine's admission into the United Nations Educational, Scientific and Cultural Organization (UNESCO), Israel and the United States (with the compliance of the PA), have blocked Palestinian efforts that aimed to achieve formal recognition within the UNFCCC (Mason, 2013). In emphasizing the

multiple challenges faced by the Palestinian delegation in attempting to submit a request for a UNFCCC membership, Mr. Katbeh (2013) adds:

In the past, many countries supported Palestine's right to access funds available under the UNFCCC, but when we wanted to act on this as opposed to merely talking about it, many of those same countries objected... in Doha, we created a committee made of other Arab delegations that was led by the Algerian delegation team in order to have the committee submit and support the Palestinian membership request. At that same night, members of the Qatari delegation asked the Algerian group to postpone the submission of the application because they did not want to displease members of the United States and Israeli delegations... The Qatari delegation indicated that they would discuss the possibility of submitting the request in the next few days... the conference had passed and the request was never submitted.... (Katbeh, 2013).

Palestinian stakeholders find it necessary that Palestine is able to access funds that are available under the UNFCCC in order to plan for and implement feasible adaptation strategies. Yet, the process through which Palestine could become a signatory member of the UNFCCC has been continuously obstructed as it runs counter to Israel's political interests. As long as the OPT is excluded from the UNFCCC process, Palestinian CC adaptation strategies will not acquire official recognition within the international CC regime

4. Institutional weaknesses within Palestine

Although external political factors are identified as key obstacles to effective CC adaptation in the OPT, responsibility also falls on the failure of internal governmental and non-governmental institutions in delivering possible measures related to CC adaptation. In its compliance with external political and economic pressures (i.e. exclusion of international aid and remittances), the PA played an important role in Palestine's inability to gain full recognition under the UNFCCC (Isaac, 2013; Katbeh, 2013). After acquiring the 'observer state' status within the UN and failing to submit the written membership request in Doha, Palestinians were still able to submit a written request by using other means within a period of 90 days. In compliance with the United States threats to withdraw development aid and remittances from the OPT, the Palestinian President refused the call for submission of a new UNFCCC membership request (Katbeh, 2013). To validate their decision, the PA informed the EQA that due to Palestine's political priorities, Palestine ought to only be concerned with the international agreements that are associated with war crimes and human rights (ibid). While emphasizing that CC in Palestine is a political and humanitarian matter, the EQA insists that the PA's decision was politically motivated, and that the Palestine's 'admission into the UNFCCC agreement is a significant step that could pave the way for a number of political opportunities' (Katbeh, 2013).

It is also essential for CC adaptation to be mainstreamed into the scope of work of Palestinian NGOs and governmental institutions (Abu Middain, 2013; Abu Thaher, 2013; Tamimi, 2013). Raising awareness around the relevance of CC to political and developmental processes is necessary to ensure that CC adaptation is acknowledged as a priority across different sectors (Ayers and Huq, 2008). According to Mr. Ahmed Abu Thaher, director general of projects and international relations at the EQA: 'to effectively strategize for CC adaptation, mainstreaming CC is necessary in order for ministries, civil society organizations, and private sectors to work collectively on implementing basic adaptation needs' (Abu Thaher, 2013). Cooperative action and coordination between different societal and institutional sectors are essential in attempting to facilitate successful CC adaptation (Abu Middain, 2013; Abu Thaher,

2013; Messerschmid, 2012), but often times in the OPT, CC is deemed irrelevant to the work of many NGOs and governmental institutions (Abu Middain, 2013).

Mainstreaming CC into development and political processes in Palestine is seen as an important step to support effective CC adaptation. The mainstreaming process should include the integration of information, measures and policies to address CC issues in ongoing projects and decision-making processes across sectors (Abu Thaher, 2013). While CC mainstreaming would facilitate better CC adaptation planning for the OPT, it could also help development and governmental organizations identify existing projects that could be threatened by climatic changes as well as the underlying sources of environmental vulnerability (Ayers and Huq, 2008). This could be achieved through activating the work of the Palestinian National Committee for Climate Change (NCCC), which was established in 2008 in order to integrate the topic of CC into the work of different Palestinian sectors (Katbeh, 2013) and highlight the impact of CC on their work (UNDP/PAPP, 2010). Led by the EQA, the NCCC consists of 21 governmental, academic and civil society organizations (Katbeh, 2013), however, aside from the occasionally conducted discussion meetings, the committee has not been active (Hilal, 2013; Tamimi, 2013). Ms. Jane Hilal, head of the water and environment research unit at ARIJ emphasizes: ‘the responsibilities of the NCCC are important and the PA should firmly intervene in making sure that the committee is active and running’.

VII. Conclusion

Vulnerability to CC in the Palestine is highly linked to the political context in which climate risks are created and reinforced. Based on CC projections for the eastern Mediterranean, water and agriculture in Palestine will be the two most distressed sectors in light of the predicted higher temperatures and considerable decrease in precipitation levels. Yet; the agricultural and water-related crises in Palestine have not yet been a product of CC; they are rather a result of the unequal distribution of control over land and water resources. In order to build a system under which communities and individuals are able to cope with and adapt to predicted climatic changes, CC adaptation efforts must take inclusive and participatory approaches that critically address the factors that create and reinforce current environmental vulnerabilities. Through situating the impact of socio-economic and geo-political vulnerabilities on CC adaptation in the OPT, this article argues that successful planning and effective implementation of CC adaptation measures are not possible unless the political dimensions of existing environmental vulnerabilities are critically addressed and actively challenged.

Existing power structures and political interests in the OPT create major obstacles to successful adaptation planning. The predominant Israeli discourse on CC, which in addition to the persistent denial of the Palestinian water crisis is marked by the illusions of water scarcity and the ‘sustainable’ oasisification of the desert, is a discourse that is constantly employed to validate and reinforce Israel’s hydro-political domination in the region. Incidentally, the donor-driven proposed solutions for CC adaptation in the OPT are either restricted to technical measures or are linked to the notion of trans-boundary water ‘cooperation’ between Israelis and the Palestinians. Cooperation, as demonstrated in this article, is not a politically impartial process; but one that is lined with the exacerbation of the Palestinian water crisis. Despite the adoption of the concept of vulnerability, Palestinian discourses on CC adaptation are similar to donors’ discourses. They are isolated from important political determinants of water and food security and are predominantly based on technical solutions. Strengthening resilience and adaptive capacity for Palestinians requires addressing the asymmetry in the distribution of power and resources, which creates and reproduces environmental inequalities. CC adaptation in the OPT must therefore be considered as a political mission rather than a technical challenge.

By analyzing the UNDP and EQA's CC adaptation strategy for the OPT, this article highlights the political and institutional challenges associated with the failure of implementing recommended adaptation measures. It is concluded that the implementation of adaptation practices is nearly impossible under the current political status quo characterized by Israel's political practices and military orders, which maintain and reinforce the imbalanced domination of land and water resources. In a society where, involuntary and harmful water-related coping methods are already in use, the suggestion of adaptation measures that are solely technical and that encourage lower water consumption resembles adaptation not to CC but to a continuing unmerited political status quo.

Due to the socio-economic destitutions in the OPT, adaptation measures and practices are predominantly donor-driven. As donors appear reluctant to address the underlying sources of climate vulnerability, and as they refuse to engage in projects that run counter to Israel's political agenda; adaptation proposals for Palestine have become mostly restricted to technical, politically 'neutral' and often theoretical solutions. This article argues that a successful approach to building adaptive capacities, increasing resilience and reducing vulnerability requires actions that extend beyond the measurable impacts of CC and that focus on the underlying sources of vulnerability. It is therefore pivotal that Palestine is able to access CC adaptation funds available under the UNFCCC. Yet, both internal and external political practices have continuously obstructed the process through which Palestine could become a formal member of the UNFCCC. To ensure a more inclusive and effective CC adaptation approach, the PA ought to be involved in mainstreaming CC into the work of various Palestinian sectors to guarantee an adequate assessment of CC impacts and in order to incorporate essential adaptation needs in planning for and implementing CC adaptation priorities.

This article concludes that there are political and institutional obstacles to developing and implementing effective and equitable adaptation policies in the OPT. Due to a variety of factors including impacts of the Israeli occupation, dependency on donor funded projects, inadequate access to CC adaptation funds and institutional weaknesses within Palestine, all of which are intertwined and politically induced, none of the CC adaptation measures proposed by the EQA and UNDP CC adaptation strategy have been implemented or are likely to be implemented in the near future. Effective CC adaptation measures must therefore push towards ensuring a fair allocation of natural resources in the OPT by challenging existing political inequalities and power structures both locally and internationally.

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